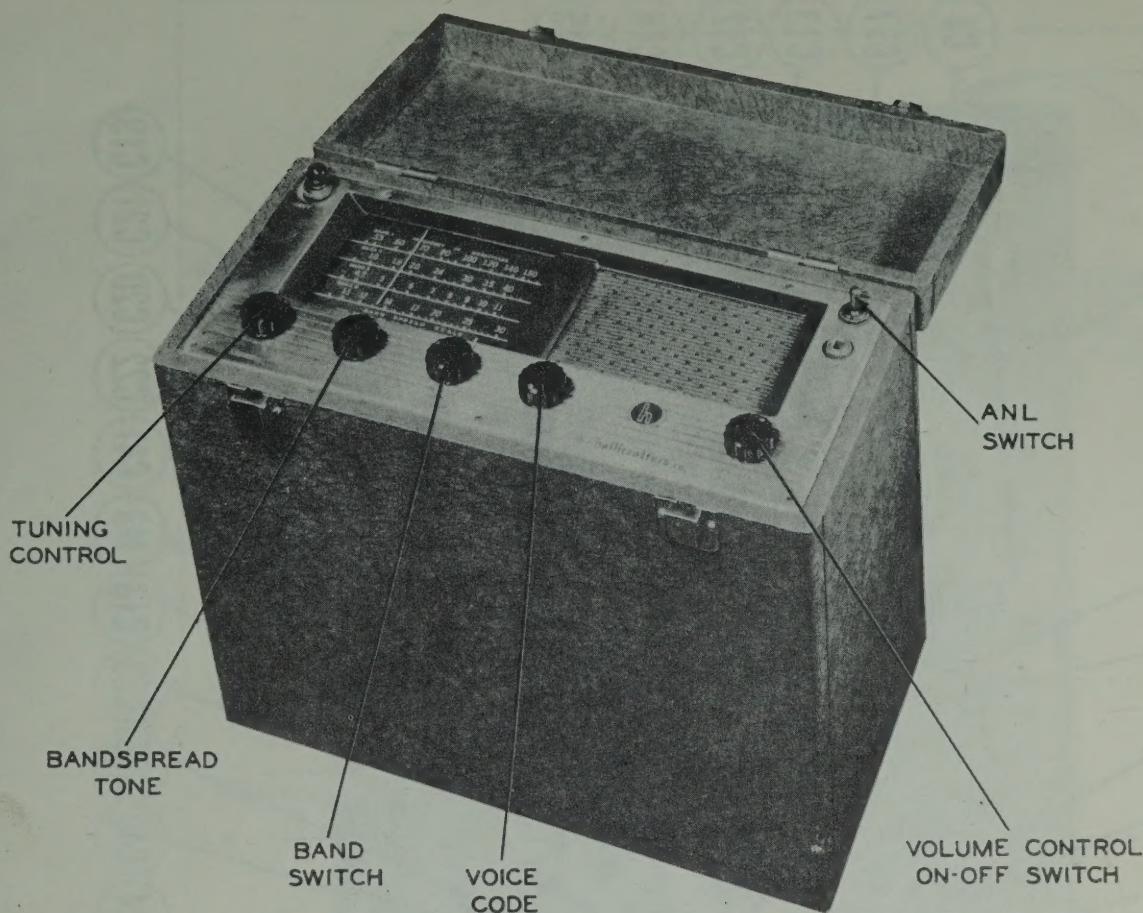




**HALLICRAFTERS
MODEL S-72**



**HALLICRAFTERS
MODEL S-72**

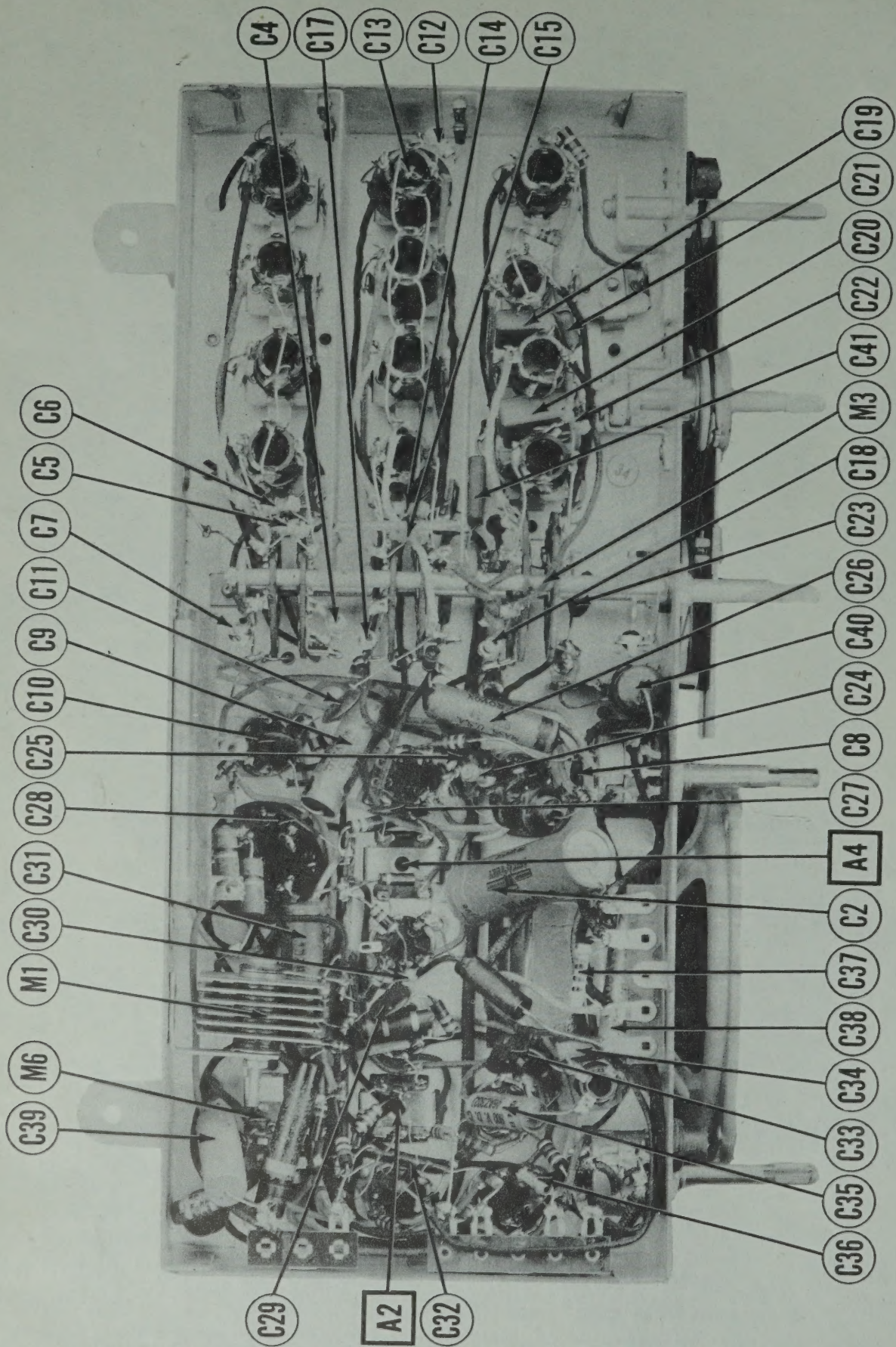
HALLICRAFTERS MODEL S-72

TRADE NAME	Hallicrafters, Model S-72
MANUFACTURER	The Hallicrafters Co., 5th and Kostner Avenues, Chicago 24, Illinois
TYPE SET	Three Power Operated Portable Multi-Band Superheterodyne Receiver with Loop Antenna
TUBES(EIGHT)	Types 1T4 RF Amp., 1U4 Mixer, 1R5 Oscillator, 1U4 1st IF Amp., 1U4 2nd IF Amp., 1U5 DET-AFC-AF, 1U5 BFO, 3V4 Power Output
POWER SUPPLY	105-125 Volts AC-DC or 7.5 Volts "A" Supply and 90 Volts "B" Supply in Pack Form
RATING	.37 Amp. at 117 Volts AC or 110MA at 7.5 Volts DC and 30MA at 90 Volts DC
TUNING RANGE-BROADCAST	550-1600KC
SHORT WAVE	(#1)1.5-4.4MC, (#2)4.5-11.5MC, (#3)11-30MC

HOWARD W. SAMS & CO., INC. • Indianapolis 1, Indiana

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PARTS LIST AND DESCRIPTIONS (Continued)

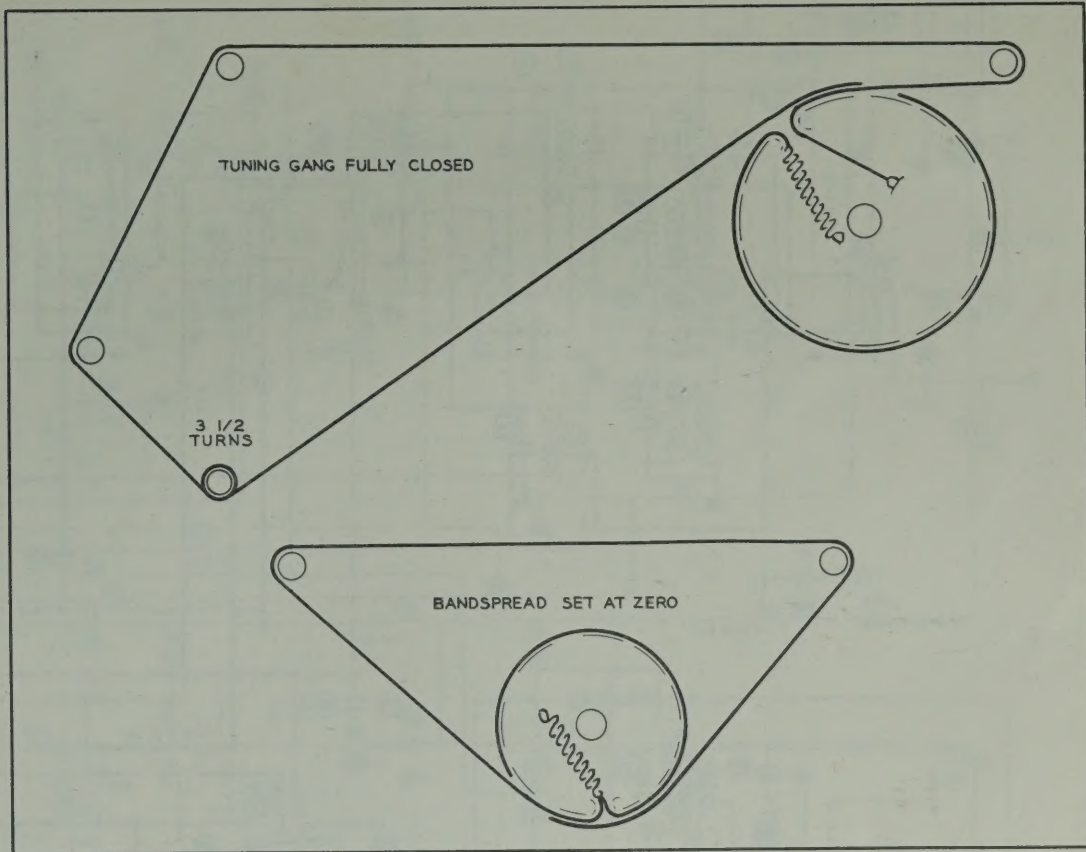
CONTROLS

ITEM No.	RATING			REPLACEMENT DATA			INSTALLATION NOTES
	RESISTANCE	WATTS		Hallcrafters PART No.	IRC PART No.	CLAROSTAT PART No.	
R1A	2 Meg. Shift Switch	1/2		25B839	QJ3-139	AM-66-Z	Volume control Attach to R1A per instructions Attach to R1A per instructions RF Gain Control and Voice-Code Switch
R2	500KΩ	1/2		25B847	Not Req. 76-2	KSS-3 SW-A2	

RESISTORS

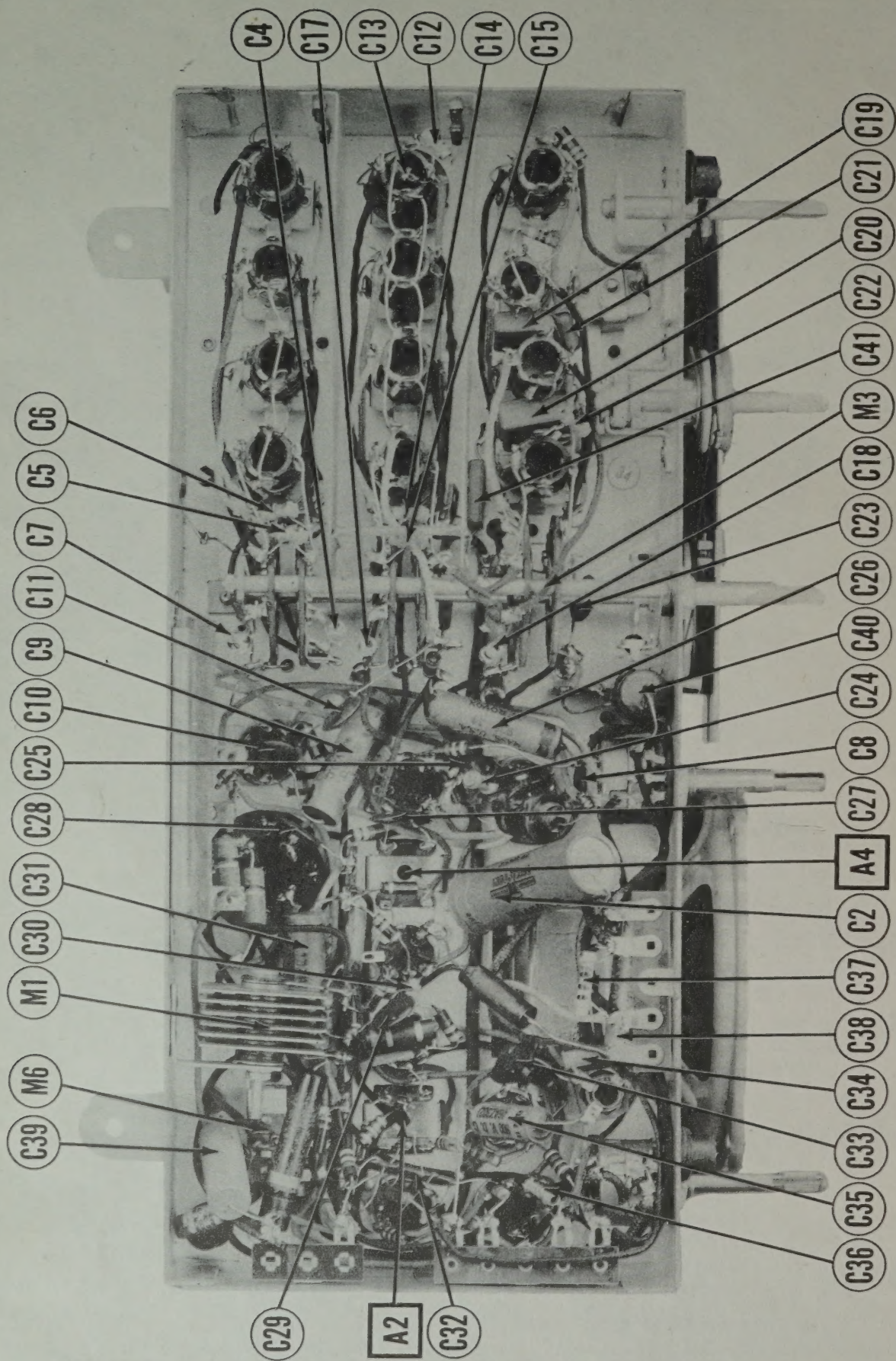
ITEM No.	RATING		REPLACEMENT DATA		IDENTIFICATION CODES	
	RESISTANCE	WATTS	Hallcrafters PART No.	IRC PART No.		
R3	10KΩ		23X20X103K	BTS-10K	Ant. Loading	
R4	4.7 Meg.		23X20X475M	BTS-4.7 Meg.	RF Grid	
R5	150Ω		23X20X151K	BW-1/150	RF Filament Shunt	
R6	22KΩ		23X20X223K	BTS-22K	RF Screen	
R7	470Ω		23X20X471K	BTS-470	RF Plate Decoupling	
R8	15Ω		23X20X151K	BTS-470	Parasitic Supp.	
R9	4.7 Meg.		23X20X475M	BTS-4.7 Meg.	Mixer Grid	
R10	100KΩ		23X20X101K	BW-1/100	Mixer Filament Shunt	
R11	2200Ω		23X20X222K	BTS-2200	Decoupling	
R12	47Ω		23X20X470K	BTS-470	Parasitic Supp.	
R13	1000Ω		23X20X102K	BTS-1000	Osc. Coil Shunt	
R14	680Ω		23X20X681K	BTS-680	Osc. Coil Shunt	
R15	47KΩ		23X20X473K	BTS-47K	Osc. Grid	
R16	4.7 Meg.		23X20X475M	BTS-4.7 Meg.	AVC Network	
R17	100KΩ		23X20X104K	BTS-100K	1st IF Screen	
R18	6800Ω		23X20X682K	BTS-6800	2nd IF Plate	
R19	4.7 Meg.		23X20X475M	BTS-4.7 Meg.	2nd IF Grid	
R20	4.7 Meg.		23X20X475M	BTS-4.7 Meg.	AVC Network	
R21	2.2 Meg.		23X20X225M	BTS-2.2 Meg.	AVC Network	
R22	4.7 Meg.		23X20X475M	BTS-4.7 Meg.	AVC Network	
R23	470Ω		23X20X471K	BTS-470	Decoupling	
R24	470KΩ		23X20X474K	BTS-470K	Diode Load	
R25	47KΩ		23X20X473K	BTS-47K	Diode Filter	
R26	3.3 Meg.		23X20X335M	BTS-3.3 Meg.	AF Screen	
R27	470KΩ		23X20X474K	BTS-470K	AF Plate	
R28	22KΩ		23X20X223K	BTS-22K	BFO Grid	
R29	2.2 Meg.		23X20X225M	BTS-2.2 Meg.	BFO Diode Load	
R30	47KΩ		23X20X473K	BTS-47K	BFO Plate	
R31	2.2 Meg.		23X20X225M	BTS-2.2 Meg.	Output Grid	
R32	33Ω		23X20X330K	BW-1/33	Filament String	
R33	1200Ω		23X20X122K	BTS-1200	Filament String	
R34	560Ω		23X30X561K	ETA-560	Filament String	
R35A	270Ω		24A912	AB-250	Filament String, Wire Wound	
R35B	350Ω		24A913	AB-350	Filament Dropping, Wire Wound	
R36	600Ω		23X30X561K	ETA-560	Filament Dropping, Wire Wound	
R37	560Ω		23X30X561K	ETA-560	Filter	
R38	680Ω		23X30X681K	ETA-680	Filter	
R39	22Ω		24BC220E		Surge Limiter, Wire Wound	
R40	100Ω		23X20X101K	BW-1/100	Output Transformer Shunt	

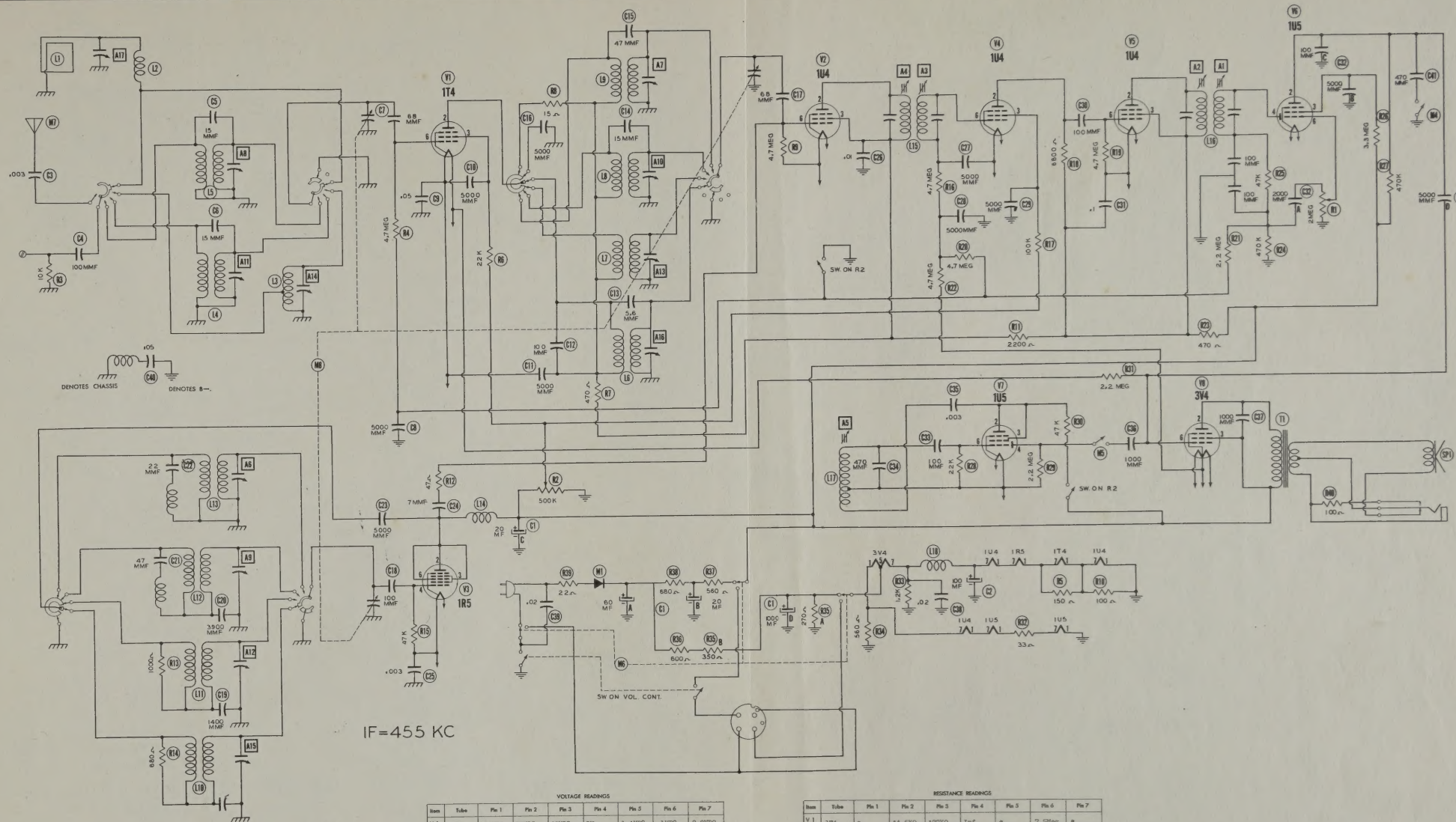
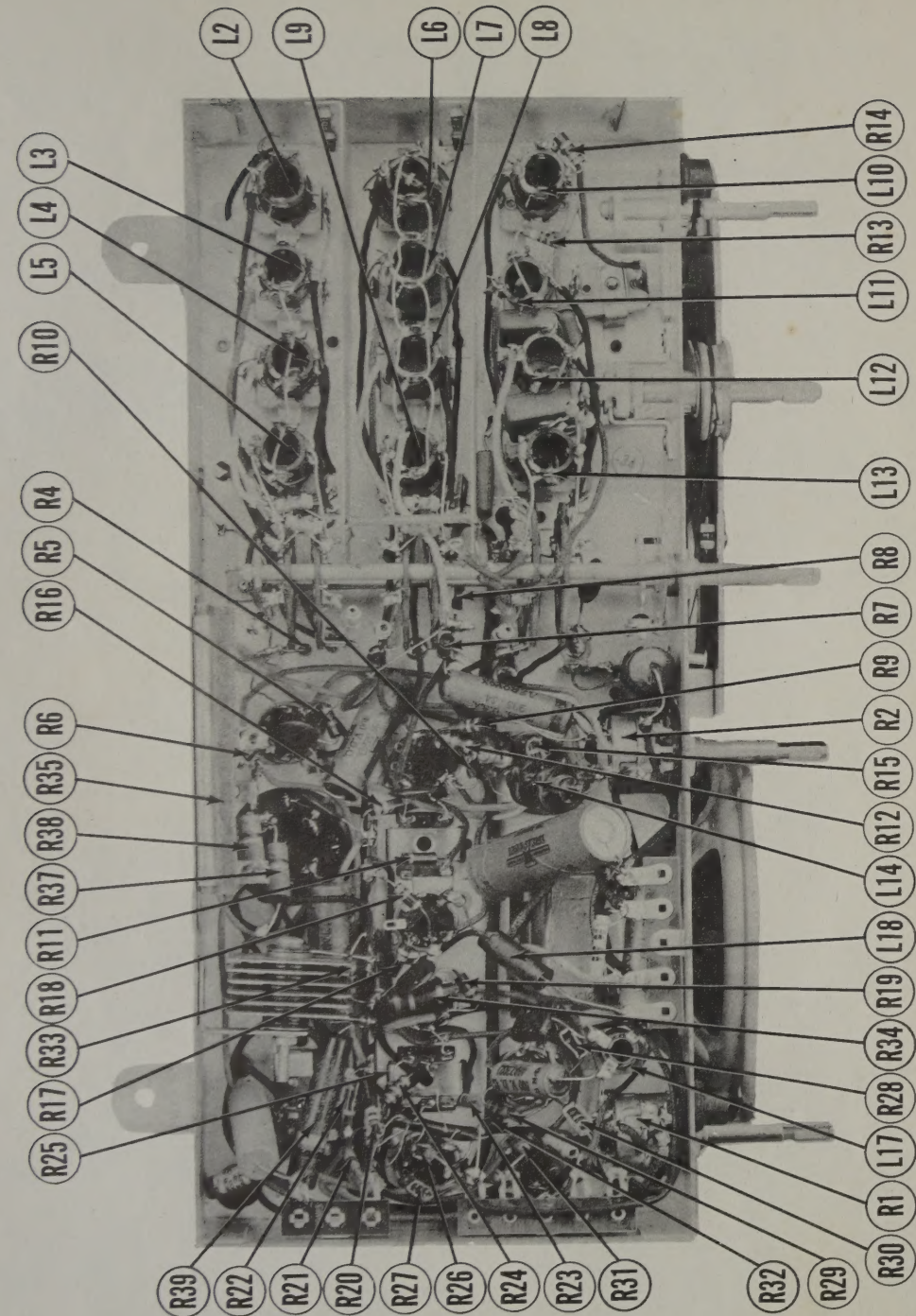
Note. Not used in all models.



TRANSFORMER (AUDIO OUTPUT)

ITEM No.	RATING				REPLACEMENT DATA			INSTALLATION NOTES
	IMPEDANCE	DC RES.	PRI.	SEC.	Hallcrafters PART No.	STANCOR PART No.	MERIT PART No.	
T1	7KΩ	3.6Ω and 500Ω to 5000Ω	630Ω	100.3Ω	Part of 85C093			





IF=455 KC

VOLTAGE READINGS							
Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 7
V 1	174	1.4VDC	75VDC	80VDC	OV.	1.4VDC	1.1VDC
V 2	104	OV.	75VDC	75VDC	OV.	OV.	1.4VDC
V 3	185	2.8VDC	87VDC	87VDC	5-6.5VDC	2.8VDC	87VDC
V 4	104	4.4VDC	80VDC	85VDC	OV.	4.4VDC	OV.
V 5	104	4.4VDC	85VDC	85VDC	OV.	4.4VDC	OV.
V 6	105	OV.	40VDC	35VDC	OV.	OV.	1.4VDC
V 7	105	50VDC	50VDC	50VDC	1VDC	OV.	52.8VDC
V 8	3V4	5.8VDC	80VDC	87VDC	OV.	7.8VDC	OV.

STARTED WITH VACUUM TUBE VOLTMETER.

RESISTANCE READINGS							
Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 7
V 1	174	14.5KΩ	122KΩ	Inf.	7.5MΩ	7.5MΩ	7.5MΩ
V 2	104	14KΩ	14KΩ	Inf.	7.5MΩ	7.5MΩ	7.5MΩ
V 3	185	11.2KΩ	11.2KΩ	47KΩ	11.2KΩ	11.2KΩ	11.2KΩ
V 4	104	18.5KΩ	110KΩ	Inf.	8 MΩ	8 MΩ	8 MΩ
V 5	104	11.7KΩ	11.7KΩ	Inf.	4.7MΩ	4.7MΩ	4.7MΩ
V 6	105	147KΩ	15.3KΩ	500KΩ	500KΩ	2 MΩ	2 MΩ
V 7	105	147KΩ	147KΩ	2.2MΩ	Inf.	22KΩ	22KΩ
V 8	3V4	12KΩ	11.2KΩ	Inf.	2.2MΩ	2.2MΩ	2.2MΩ

*DO NOT USE OHMMETER TO MEASURE FILAMENT RESISTANCE.

* Voice - Code Switch in "Code" position.

1 Measured from output of R1.

THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE

1. DC Voltage measurements are at 20,000 ohms per volt; AC Voltages measured at 1,000 ohms per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of $\pm 10\%$ in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.

PARTS LIST AND DESCRIPTIONS
 TUBES (SYLVANIA or Equivalent)

ITEM No.	USE	REPLACEMENT DATA		INSTALLATION NOTES
		HALICRAFT	REPLACEMENT	
V1	RF Amp.	Part No.	6AR	
V2	Detector	Part No.	1B3	
V3	Detector	Part No.	7AT	
V4	1st IF Amp.	Part No.	6AR	
V5	2nd IF Amp.	Part No.	6AR	
V6	DET.-AFC-AF	Part No.	6BW	
V7	BFO	Part No.	105	
V8	Power Output	Part No.	3V4	

PARTS LIST AND DESCRIPTIONS (Continued)

ITEM No.	RATINGS	REPLACEMENT DATA		INSTALLATION NOTES
		HALICRAFT	REPLACEMENT	
SPI	FIELD PM	Part No.	ST-105 +1	* Fabricate mounting bracket. † Remount output transformer.
SP2	CONE D.A.	Part No.	MOD. P5-X	* Use mounting brackets provided.

R F COILS

ITEM No.	USE	REPLACEMENT DATA		NOTES
		DC RES.	MEISSNER	
L1	Loop Ant.	Part No.	Part No.	
L2	Ant. Trasn.	Part No.	Part No.	
L3	Ant. Trasn.	Part No.	Part No.	
L4	Ant. Trasn.	Part No.	Part No.	
L5	Ant. Trasn.	Part No.	Part No.	
L6	RF Trans.	Part No.	Part No.	
L7	RF Trans.	Part No.	Part No.	
L8	RF Trans.	Part No.	Part No.	
L9	RF Trans.	Part No.	Part No.	
L10	Osc. Coil	Part No.	Part No.	
L11	Osc. Coil	Part No.	Part No.	
L12	Osc. Coil	Part No.	Part No.	
L13	1st IF	Part No.	Part No.	
L14	2nd IF	Part No.	Part No.	
L15	2nd IF	Part No.	Part No.	
L16	2nd IF	Part No.	Part No.	
L17	2nd IF	Part No.	Part No.	
L18	2nd IF	Part No.	Part No.	

SELENIUM RECTIFIER

ITEM No.	RATING	REPLACEMENT DATA		NOTES
		HALICRAFT	REPLACEMENT	
M1	CURRENT	Part No.	Part No.	

BATTERIES

ITEM No.	VOLTAGE	REPLACEMENT DATA		INSTALLATION NOTES
		EVEREADY	BURGESS	
M2	7.5V "A"	Part No.	Part No.	

MISCELLANEOUS

ITEM No.	PART NAME	REPLACEMENT DATA		NOTES
		HALICRAFTERS	REPLACEMENT	
M3	Switch	Part No.	Part No.	
M4	Switch	Part No.	Part No.	
M5	Switch	Part No.	Part No.	
M6	Switch	Part No.	Part No.	
M7	Switch	Part No.	Part No.	
M8	Switch	Part No.	Part No.	

PARTS LIST AND DESCRIPTIONS (Continued)

CONTROLS

ITEM No.	RATING - RESISTANCE	REPLACEMENT DATA		INSTALLATION NOTES
		HALICRAFTERS	REPLACEMENT	
R1A	2 Meg.	Part No.	Part No.	
R1B	2 Meg.	Part No.	Part No.	
R1C	2 Meg.	Part No.	Part No.	
R1D	2 Meg.	Part No.	Part No.	

RESISTORS

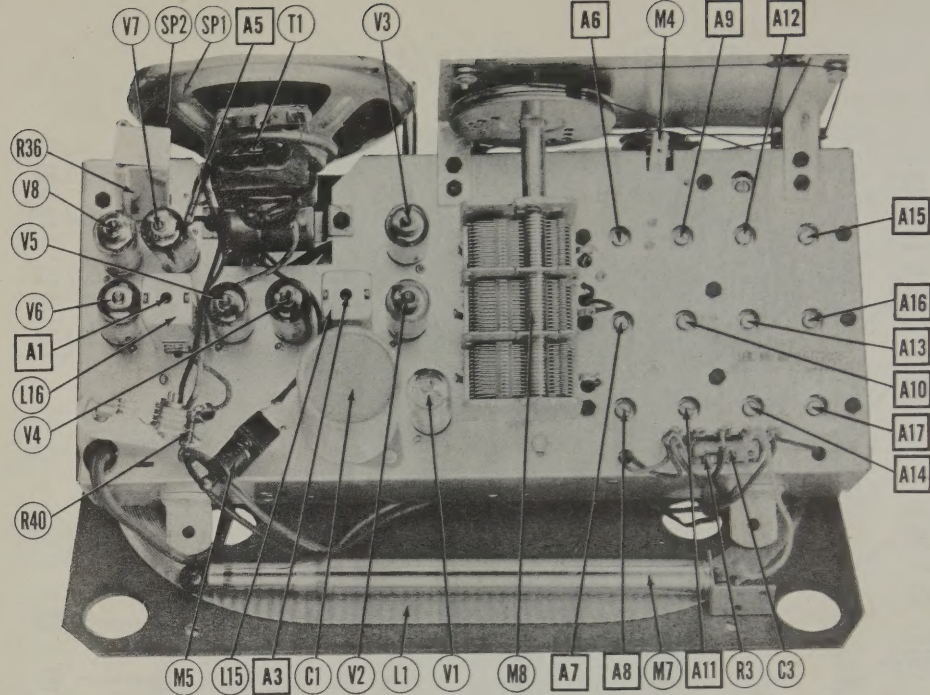
ITEM No.	RATING - RESISTANCE	REPLACEMENT DATA		IDENTIFICATION CODES
		HALICRAFTERS	REPLACEMENT	
R2	2 Meg.	Part No.	Part No.	
R3	2 Meg.	Part No.	Part No.	
R4	2 Meg.	Part No.	Part No.	
R5	2 Meg.	Part No.	Part No.	
R6	2 Meg.	Part No.	Part No.	
R7	2 Meg.	Part No.	Part No.	
R8	2 Meg.	Part No.	Part No.	
R9	2 Meg.	Part No.	Part No.	
R10	2 Meg.	Part No.	Part No.	
R11	2 Meg.	Part No.	Part No.	
R12	2 Meg.	Part No.	Part No.	
R13	2 Meg.	Part No.	Part No.	
R14	2 Meg.	Part No.	Part No.	
R15	2 Meg.	Part No.	Part No.	
R16	2 Meg.	Part No.	Part No.	
R17	2 Meg.	Part No.	Part No.	
R18	2 Meg.	Part No.	Part No.	
R19	2 Meg.	Part No.	Part No.	
R20	2 Meg.	Part No.	Part No.	
R21	2 Meg.	Part No.	Part No.	
R22	2 Meg.	Part No.	Part No.	
R23	2 Meg.	Part No.	Part No.	
R24	2 Meg.	Part No.	Part No.	
R25	2 Meg.	Part No.	Part No.	
R26	2 Meg.	Part No.	Part No.	
R27	2 Meg.	Part No.	Part No.	
R28	2 Meg.	Part No.	Part No.	
R29	2 Meg.	Part No.	Part No.	
R30	2 Meg.	Part No.	Part No.	
R31	2 Meg.	Part No.	Part No.	
R32	2 Meg.	Part No.	Part No.	
R33	2 Meg.	Part No.	Part No.	
R34	2 Meg.	Part No.	Part No.	
R35	2 Meg.	Part No.	Part No.	
R36	2 Meg.	Part No.	Part No.	
R37	2 Meg.	Part No.	Part No.	
R38	2 Meg.	Part No.	Part No.	
R39	2 Meg.	Part No.	Part No.	
R40	2 Meg.	Part No.	Part No.	

Note. Not used in all models.

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	RATING - IMPEDANCE	REPLACEMENT DATA		INSTALLATION NOTES
		HALICRAFTERS	REPLACEMENT	
T1	750	Part No.	Part No.	

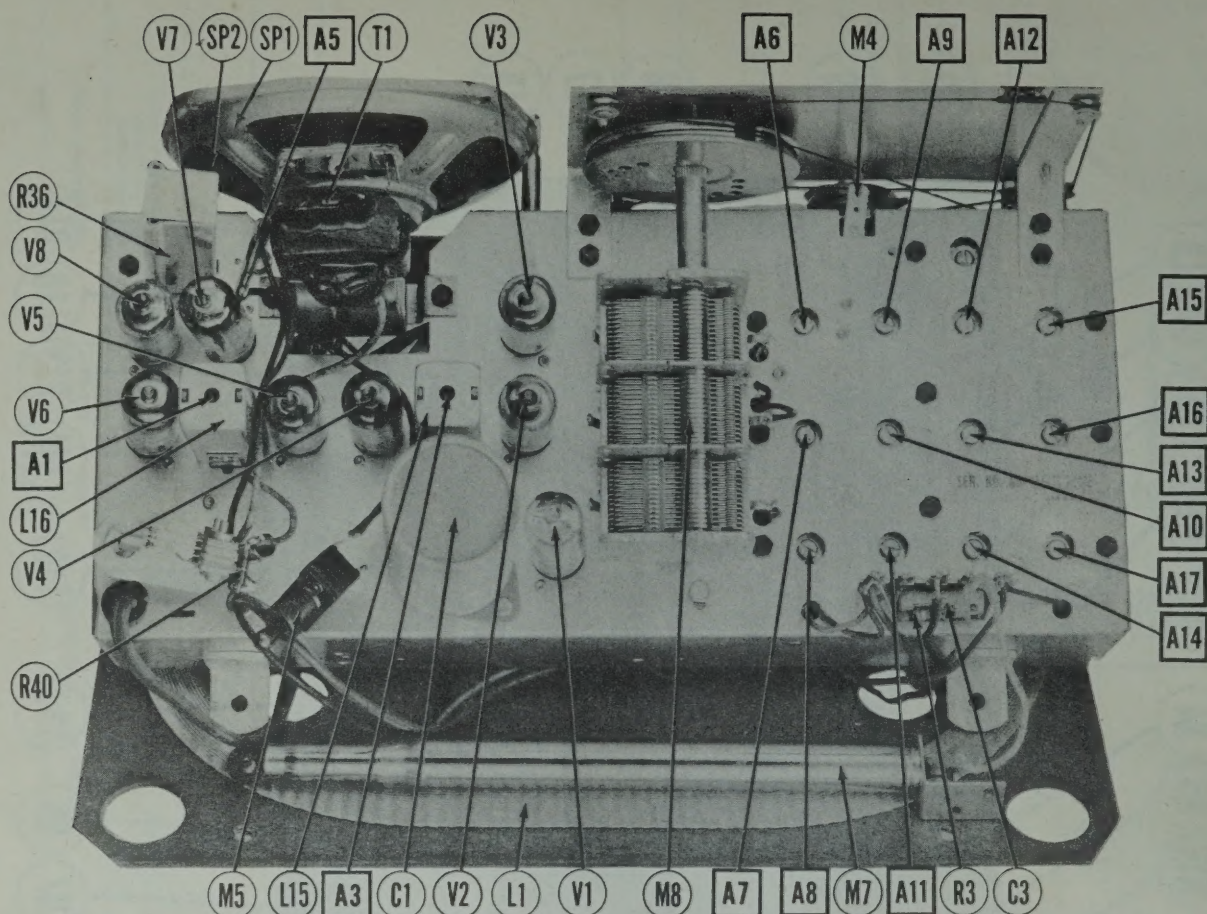
CHASSIS—TOP VIEW



ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

ITEM No.	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1.	.05MFD	High side to stator of center section of tuning gang. Low side to B-.	455KC (400 ~ Mod.)	#1 (maximum CCW)	1000KC	Across voice coil	A1, A2, A3, A4	Adjust for maximum output. If AC power is used without an isolation transformer reduce dummy antenna to 200MMF to reduce hum modulation.
2.	.05MFD	"	455KC (Unmod.)	"	"	"	A5	Set "VOICE - CODE" switch to "CODE" and adjust for 1000 ~ note in speaker.
3.	15MMF	High side to ext. antenna lead. Low side to B- (See pre-alignment notes)	30MC (400 ~ Mod.)	#4 (maximum CW)	30MC	"	A6, A7, A8	Adjust in the order given for maximum output.
4.	15MMF	"	11.5MC	#3 (Third pos. CW)	11.5MC	"	A9, A10, A11	"
5.	15MMF	"	4.4MC	#2 (second pos. CW)	4.4MC	"	A12, A13, A14	"
6.	Loop	"	1500KC	#1	1500KC	"	A15, A16, A17	Fashion loop of a few turns of wire and radiate signal into loop. Adjust A15, A16, A17 in that order for maximum output.

CHASSIS—TOP VIEW



ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

To set pointer turn tuning cap fully closed and set pointer to last reference mark at low frequency end of dial.
 Use battery power when available. If AC power is used, use an isolation transformer when available. If not, connect a .1MFD capacitor in series with low side of the signal generator and B-.
 Volume control should be at maximum position. Output of signal generator should be no higher than necessary to obtain an output reading. Use an insulated alignment screwdriver for adjusting.
 Turn the band spread dial to zero. If the trimmer closes completely before the dial reaches zero, loosen the set screws on the drive drum and turn the trimmer 1/2 turn counter-clockwise from tight. Turn the band-spread pointer to zero and tighten the set screws on the drive drum.
 Leave the band spread dial at zero during entire alignment. After completing step 2, connect a 10MMF capacitor between the external antenna lead and chassis.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1.	.05MFD	High side to stator of center section of tuning gang. Low side to B-.	455KC (400 ~ Mod.)	#1 (maximum CCW)	1000KC	Across voice coil	A1, A2, A3, A4	Adjust for maximum output. If AC power is used without an isolation transformer reduce dummy antenna to 200MMF to reduce hum modulation.
2.	.05MFD	"	455KC (Unmod.)	"	"	"	A5	Set "VOICE - CODE" switch to "CODE" and adjust for 1000 ~ note in speaker.
3.	15MMF	High side to ext. antenna lead. Low side to B-. (See pre-alignment notes)	30MC (400 ~ Mod.)	#4 (maximum CW)	30MC	"	A6, A7, A8	Adjust in the order given for maximum output.
4.	15MMF	"	11.5MC	#3 (Third pos. CW)	11.5MC	"	A9, A10, A11	"
5.	15MMF	"	4.4MC	#2 (second pos. CW)	4.4MC	"	A12, A13, A14	"
6.		Loop	1500KC	#1	1500KC	"	A15, A16, A17	Fashion loop of a few turns of wire and radiate signal into loop. Adjust A15, A16, A17 in that order for maximum output.